

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 21000PCT AWT/JML	FOR FURTHER ACTION		See Form PCT/IPEA/416
International application No. PCT/AU2004/000865	International filing date (day/month/year) 30 June 2004	Priority date (day/month/year) 30 June 2003	
International Patent Classification (IPC) or national classification and IPC Int. Cl. ⁷ C12Q 1/68, C12M 1/34, G01N 33/48			
Applicant RAUSTECH PTY LTD et al			

<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 3 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> (sent to the applicant and to the International Bureau) a total of 9 sheets, as follows:</p> <p style="margin-left: 40px;"><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p style="margin-left: 40px;"><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or table related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>																	
<p>4. This report contains indications relating to the following items:</p> <table> <tr> <td><input checked="" type="checkbox"/> Box No. I</td> <td>Basis of the report</td> </tr> <tr> <td><input type="checkbox"/> Box No. II</td> <td>Priority</td> </tr> <tr> <td><input type="checkbox"/> Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td><input type="checkbox"/> Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td><input checked="" type="checkbox"/> Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td><input type="checkbox"/> Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td><input type="checkbox"/> Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td><input type="checkbox"/> Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table>		<input checked="" type="checkbox"/> Box No. I	Basis of the report	<input type="checkbox"/> Box No. II	Priority	<input type="checkbox"/> Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/> Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/> Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/> Box No. VI	Certain documents cited	<input type="checkbox"/> Box No. VII	Certain defects in the international application	<input type="checkbox"/> Box No. VIII	Certain observations on the international application
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Date of submission of the demand 29 April 2005	Date of completion of the report 11 July 2005
Name and mailing address of the IPEA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaaustralia.gov.au Facsimile No. (02) 6285 3929	Authorized Officer BAYER MITROVIC Telephone No. (02) 6283 2164

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/AU2004/000865

Box No. I Basis of the report

10/562371

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1 (b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1, 2, 6, 8-21 as originally filed/furnished
 - pages* 3-5, 5A, 7 received by this Authority on 30 June 2005 with the letter of 30 June 2005
 - pages* received by this Authority on with the letter of
- ☒ the claims:
- pages as originally filed/furnished
 - pages* as amended (together with any statement) under Article 19
 - pages* 22-24, 24A received by this Authority on 30 June 2005 with the letter of 30 June 2005
 - pages* received by this Authority on with the letter of
- ☒ the drawings:
- pages 1/3-3/3 as originally filed/furnished
 - pages* received by this Authority on with the letter of
 - pages* received by this Authority on with the letter of
- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to the sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to the sequence listing (*specify*):

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/AU2004/000865

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims 1-13	YES
	Claims	NO
Inventive step (IS)	Claims 1-13	YES
	Claims	NO
Industrial applicability (IA)	Claims 1-13	YES
	Claims	NO

2. Citations and explanations (Rule 70.7)

The following documents identified in the International Search Report have been considered for the purposes of this report:

D1: US 2002/0136978

D2: WO 2000/25936

D3: WO 2001/15800

D4: WO 2003/031067

Document D1 discloses a method of in-situ synthesis of array of biopolymers on the patterned substrate to produce a diverse and addressable set of chemical compounds. Method is based on the electrostatic deposition of particles which are partially composed of nucleotides, amino acids, oligomers or similar compounds, which are charged by triboelectrification and which may carry charge controlling agents. Particles are first deposited onto an interim selectively charged substrate, which includes discrete areas with different charge. Interim substrate is a photoreceptor whose charge is changed by photo illumination to generate patterned regions with predetermined electrostatic charges. Particles carrying nucleotides and other moieties are present on the surface of the interim substrate, but they do not form the continuous functional layer.

Each of the remaining documents D2-D4 disclose a method of electrostatic deposition of charged particles onto a substrate which consists of patterned metal and dielectric layers to synthesize an array of oligomers or other compounds. A spatially resolved, addressable charge is formed onto the substrate in a predetermined manner. Chemical functionalities are present on the surface of the substrate. The use of photoconductors is not disclosed.

None of the above documents disclose the chemically functional layer providing a protective layer for photoconductive or dielectric layer and a chemically reactive surface for compounds deposited on the surface.

NOVELTY AND INVENTIVE STEP – CLAIMS 1-13

In light of the above observations it is concluded:

The subject matter of claims 1-13 is new and meets the requirements of Article 33(2) PCT with regard to novelty.

The claimed invention is also not obvious in the light of any of the cited documents nor is it disclosed in any obvious combination of them. It is also considered that it would not be obvious to a person skilled in the art in the light of common general knowledge either by itself or in combination with any of these documents. Therefore the subject matter of these claims is not obvious and meets the requirements of Article 33(3) PCT with regard to inventive step.